

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-48. (Cancel)

49. (New) An optical apparatus having a telephone function comprising:

an optical system comprising an optical element having a variable optical characteristic;

an image pickup device for picking up an image formed by said optical system;

a display for displaying a picked up image; and

a memory for storing the picked up image.

50. (New) The optical apparatus having the telephone function according to claim 49, further comprising a viewfinder for determining an image pickup range.

51. (New) The optical apparatus having the telephone function according to claim 49, wherein said optical apparatus is manufactured by lithography.

52. (New) The optical apparatus having the telephone function according to claim 49, comprising an infrared cut filter disposed in said optical system.

53. (New) The optical apparatus having the telephone function according to claim 49, wherein said optical system has a function of an infrared cut filter.

54. (New) The optical apparatus having the telephone function according to claim 49, comprising an optical element or an optical member that is manufactured by molding plastic, glass or the like as a material.

55. (New) The optical apparatus having the telephone function according to claim 49, wherein said optical element having the variable optical characteristic is manufactured by molding plastic, glass or the like as a material.

56. (New) The optical apparatus having the telephone function according to claim 49, comprising a diffractive optical element.

57. (New) The optical apparatus having the telephone function according to claim 49, wherein said optical element having the variable optical characteristic is a lens having a variable focal length.

58. (New) The optical apparatus having the telephone function according to claim 49, further comprising a microprocessor.

59. (New) The optical apparatus having the telephone function according to claim 49, wherein said optical system has a bent optical axis.

60. (New) The optical apparatus having the telephone function according to claim 49, wherein said optical system has a rotationally asymmetrical optical surface.

61. (New) The optical apparatus having the telephone function according to claim 49, wherein said optical element having the variable optical characteristic is a reflection type optical element.

62. (New) An optical apparatus having a telephone function comprising:

an optical system having a focal point adjusting function;

an image pickup device for picking up an image formed by said optical system;

a display for displaying a picked up image;

a memory for storing the picked up image; and

a microprocessor.

63. (New) An optical apparatus, comprising:

an image pickup device;

a display element;

an optical system having a focal point adjusting function;

a memory for storing an image which is obtained with said optical system and said image pickup device; and

a microprocessor for controlling said optical apparatus,

wherein said image pickup device and said display element are disposed on or in the vicinity of a single substrate, and

wherein said optical system, said memory and said microprocessor are disposed in the vicinity of said substrate.

64. (New) An optical apparatus, comprising:

an image pickup device;

a display element;

an optical system comprising an optical element having a variable optical characteristic;

a memory for storing an image which is obtained with said optical system and said image pickup device; and

a microprocessor for controlling said optical apparatus,

wherein said image device and said display element are disposed on or in the vicinity of a single substrate, and

wherein said optical system, said memory and said microprocessor are disposed in the vicinity of said substrate.

65. (New) An optical apparatus, comprising:

an image pickup device;

a display element;

a substrate having a light transmissive portion;

an optical system having an optical path formed in said substrate;

a memory for storing an image obtained with said optical system and said image pickup device; and

a microprocessor for controlling said optical apparatus,

wherein said image pickup device and said display element are disposed on or in the vicinity of said substrate, and

wherein said optical system, said memory and said microprocessor are disposed in the vicinity of said substrate.

66. (New) An optical apparatus, comprising:

an image pickup device;

a display element;

a substrate having a light transmissive portion;

a memory for storing an image obtained with said optical system and said image pickup device; and

a microprocessor for controlling said optical apparatus,

wherein said image pickup device and said display element are disposed on or in the vicinity of said substrate, and

wherein said optical system, said memory and said microprocessor are disposed in the vicinity of said substrate.

67. (New) The optical apparatus according to claim 65 or 66, wherein said optical system comprises an optical element having a variable optical characteristic.

68. (New) The optical apparatus according to claim 65 or 66, wherein said optical system comprises a focal point adjusting function.

69. (New) The optical apparatus according to claim 63, wherein said optical apparatus has a telephone function.

70. (New) The optical apparatus according to claim 68, wherein said optical apparatus has a telephone function.

71. (New) An optical apparatus having a telephone function, comprising:

an optical system having a bent optical axis;

an image pickup apparatus for picking up an image formed by said optical system;
a display function for displaying an image picked up by said pickup apparatus; and
a memory for storing said image.

72. (New) The optical apparatus having the telephone function according to claim 70,
wherein said optical system has a rotationally asymmetrical optical surface.